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The Effect of Shopping Emotions and Perceived Risk on Impulsive Buying: The Moderating Role of Buying Impulsiveness Trait

Grace Yuna Lee*
New York, U.S.A.

Youjae Yi**
Seoul National University
Seoul, Korea

Abstract

Using a sample of 163 consumers, the study provided evidence that arousal and perceived risk had effects on impulsive buying behavior. Perceived risk was negatively associated with impulsive buying behavior but not significantly related to impulsive buying intention, whereas pleasure, which was not related to actual behavior, was a predictor of impulsive buying intention. On the other hand, the buying impulsiveness trait was found to moderate the relationship between pleasure and impulsive buying intention. This study is expected to contribute to the body of knowledge by building a model that incorporates affective, cognitive, and individual factors related to impulsive buying.

Keywords: impulsive buying behavior, shopping emotions, pleasure, arousal, perceived risk, buying impulsiveness

INTRODUCTION

Consumer behavior may be driven by impulse. A purchase may

* Main author, New York, U.S.A. (gracelee803@hotmail.com).
** Coauthor, Professor of Marketing, College of Business Administration, Seoul National University (youjae@snu.ac.kr).

often not be a function of reasoned action but be triggered by a more direct and immediate influence. In particular, impulsive buying entails a sudden urge to buy something without intention or plan at an earlier time. According to the U.S. statistics, impulsive buying accounts for nearly 60% of supermarket transactions and 80% of all purchases in certain product categories (Abrahams 1997). Particularly, the growth of e-commerce and new technologies such as TV-shopping channels offers increased opportunities for impulse buying by raising the accessibility to products or services and the ease with which purchases can be made. Although a buying impulse translates directly into an immediate physical response, different factors may influence the relationship between the impetus and the action.

Previous researchers have occasionally studied the subject of impulsive buying. The effects of mood and emotions (Donovan et al. 1994; Rook and Gardner 1993), trait impulsiveness (Rook and Fisher 1995; Weun, Jones, and Beatty 1998), norms (Rook and Fisher 1995), product (Bellenger, Robertson, and Hirschman 1978), culture (Lin and Lin 2005), different product categories, and self-identity (Dittmar, Beattie, and Friese 1995) on consumer impulsive buying behavior have been examined. These earlier studies have provided interesting descriptions about impulsive buying behavior.

In particular, emotions and perceived risk are broadly known as important determinants of consumer behavior, and they are believed to be important predictors of impulsive buying. Although earlier studies have explored some effects of emotional features on impulsive behavior, none have explored the influence of perceived risk on impulsive buying. The main aim of this study is to determine the extent to which consumers' impulsive buying behavior could be predicted from their shopping emotions as well as perceived risk. Another aim is to assess the moderating role of buying impulsiveness in impulsive buying behavior. In addition to shopping emotions and perceived risk, individual characteristics are vital determinants that play a role in impulsive buying behaviors. Specifically, individuals' buying impulsiveness trait is believed to moderate the relationship between the independent variables of shopping emotions and perceived risk and the dependent variable of impulsive buying.

Although Rook and Fisher (1995) demonstrated that impulsive buying trait was significantly related to impulsive buying behavior, they did not test its moderating effect.

Thus, the current research attempts to add to the existing literature on impulsive buying by investigating the effect of shopping emotions and perceived risk as well as the moderating role of buying impulsiveness in buying behavior. By investigating consumers in varying degrees of buying impulsiveness trait and comparing their shopping emotions, perceived risk, and impulsive buying behaviors, this study will help to better understand the nature of impulsive buying.

LITERATURE REVIEW

In the early stage of studies in this area, principal importance was given to the definition of impulsive buying based on unplanned purchases, and there have been considerable differences of opinion as to the definition of impulsive purchases. Impulsive buying was first defined as the difference between actually concluded and previously planned purchases. It was considered especially important to distinguish at which stage of the decision process impulsive purchase occurred, whether the decision was made to purchase prior to or after going into the store. Stern (1962) suggested four types of impulsive purchases: pure impulse buying, remainder impulse buying, suggestion impulse buying, planned impulse buying. Later, it was found that not all unplanned purchases are impulsively chosen, and unplanned purchases could be made rationally (Beatty and Ferrell 1998). In his study, Rook (1987) reported that impulses sometimes proved irresistible, and shoppers sometimes experienced losing control of their behavior. Baumeister (2002) also argued that resisting an impulse depends on one's capacity for self-control. As a result, researchers ultimately agreed to define impulsive buying as a directly stimulus-controlled, reactive behavior to stimuli in the buying situation, resulting from an unplanned, spur-of-the-moment impulse that is not controlled (Rook and Gardner 1993; Weun, Jones, and Beatty 1998).

An early stream of research also attempted to explore the

affective determinants of impulsive buying behaviors, and a number of studies have shown that positive moods are correlated with spending levels. Donovan and Rossiter (1982) showed that pleasure and arousal were significant mediators of intended shopping behaviors including time spent in the store, interpersonal interaction tendencies, willingness to return, and estimated monetary expenditures. The relationship was strongest for the pleasure state, whereas arousal increased the time spent in the store, willingness to interact with sales personnel, and overspending in pleasant environments. Using a sample of 60 female shoppers at two discount department stores, Donovan et al. (1994) confirmed that pleasantness experienced within the store significantly predicted spending extra time in the store as well as overspending. Moreover, Weinberg and Gottwald (2002) conducted a study to test whether emotions causing impulsive buying could be recognized empirically, using interview data and observation of facial expression in buying situations. The self-perception of impulsive buyers' emotional behavior was significantly different from that of non-buyers; impulsive buyers had greater emotional activation than non-buyers and demonstrated considerably more enthusiasm, joy, interest, but less surprise and indifference. At the same time, facial expression functioned as a useful indicator to distinguish impulsive buyers from non-buyers.

Then, researchers started to investigate the role of psychological attributes such as social image, self-identity and normative evaluation in impulsive buying. After having individual interviews with college students, Dittmar, Beattie, and Friese (1995) demonstrated that impulsive purchases were more likely to occur for products that symbolized preferred or ideal self and be affected by social categories such as gender. Men expressed more personal identity reasons for purchases, whereas women reported more social identity motives. Rook and Fisher (1995) examined the normative influences on impulsive buying behavior via two survey studies across student and retail customer samples. The results demonstrated that the relationship between the buying impulsiveness trait and impulsive buying behaviors was significant only when consumers believed that acting on impulse was appropriate. In addition, Troisi, Christopher, and Marek (2006) explored the relationship between materialism and

money spending attitudes on impulsive buying tendencies, attitudes toward debt, sensation seeking, and openness to experience, and particularly materialism and money conservation were found to predict impulsive buying.

Recently, studies have started to give attention to more dynamic relationships between impulsive buying behavior and other situational and individual factors. Consumers in a state of ego depletion were found to be more likely to give in to temptation and engage in impulsive purchases (Baumeister 2002). After collecting 4-week shopping diaries and survey questionnaires, Jones et al. (2003) found that product-specific conceptualizations of impulse buying behavior were good predictors of impulsive buying. Involvement was also found to influence consumers' propensity to make an impulsive purchase in a specific product category. On the other hand, Youn and Faber (2000) found that personality traits including lack of control, stress reaction, and absorption were related to impulsive buying tendencies. Furthermore, researchers found a significant influence of culture on impulsive buying. Using a multi-country survey of consumers in Australia, the U.S., Hong Kong, Singapore, and Malaysia, Kacen and Lee (2002) showed that regional level factors of individualism-collectivism and individual cultural difference factors of independent-interdependent self-concept methodically influenced impulsive purchasing behavior. Buying impulsiveness trait was more strongly associated with impulsive buying behavior for individualistic groups, compared to collectivistic groups.

Although notable findings have been made regarding impulsive buying, there are important limitations in the previous approaches. Impulsive buying typically has been investigated within a one dimensional model, whereas it is rather a multidimensional construct affected by various factors. While minimal cognitive control is a substantial characteristic of impulsive buying, no study has investigated the role of cognitive factors on impulsive buying. There is a need to develop a more complete model that incorporates a number of determinants including cognitive factors. Such an integrated model is expected to capture the dynamic nature of impulsive buying and have more explanatory power to understand the fundamental features.

THEORETICAL MODEL

Mood states are a vital set of affective factors, having influences on consumer behavior in a number of contexts. Specifically, consumers' emotion or mood states are considered a situational variable that affects one's purchasing behavior (Dawson, Bloch, and Ridgway 1990). The range of emotions relevant to consumption includes feelings of love, hate, fear, joy, boredom, anxiety, pride, anger, sadness, greed, guilt, shame, and awe (Holbrook and Hirschman 1982). As mentioned earlier, impulsive buying is often accompanied by intense feeling states and assumes a more hedonic character (Holbrook and Hirschman 1982).

Indeed, the relationship between pleasant emotions and purchasing behaviors is relatively well supported in the retail literature (Donovan and Rossiter 1994). In particular, the Mehrabian-Russell model (1974), which explains the relationship between environments, intervening variables, and behaviors relevant to retail setting using a Stimulus-Organism-Response paradigm, has received the widest usage to explain shopping emotions in consumer research. According to the Mehrabian-Russell model, three emotional responses of pleasure-displeasure, arousal-nonarousal, and dominance-submissiveness mediate people's approach or avoidance reactions to environments.

A number of studies have illustrated the relationship between positive moods and spending levels by using the Mehrabian-Russell model. Russell and Pratt (1980) modified the Mehrabian-

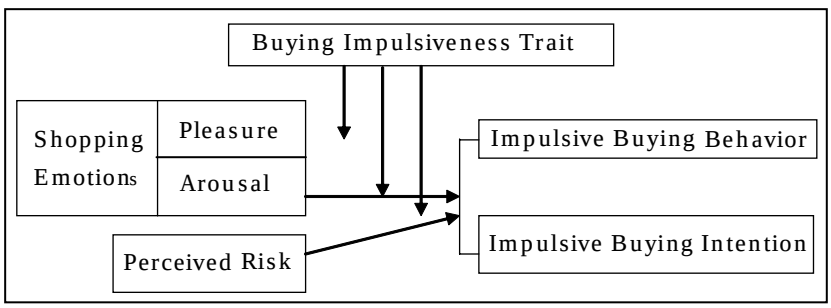

Figure 1. Hypothesized Conceptual Model

Russell model and found that dominance was not completely applicable in situations calling for affective responses, whereas pleasure and arousal dimensions were broadly applicable over a wide range of situations. Other studies have further shown that pleasure and arousal are significant mediators of intended shopping behaviors including time spent in the store, interpersonal interaction tendencies, willingness to return and monetary expenditures (Donovan and Rossiter 1982; Donovan et al. 1994; Youn and Faber 2000).

Therefore, prior research has provided evidence that consumers' positive moods, especially emotional arousal and pleasure, are closely associated with the urge to buy impulsively. In line with the Mehrabian-Russell model, shopping emotions including pleasure and high arousal level are expected to be highly correlated with impulsive buying. We argue that people will make more impulsive purchases when they feel pleasurable and aroused, and so the following hypotheses are formed:

H1: Shopping emotions would be positively associated with impulsive buying.

H1-1: Pleasure, experienced when seeing the unplanned product, would be positively associated with impulsive buying.

H1-2: Arousal, experienced when seeing the unplanned product, would be positively associated with impulsive buying.

Consumers perceive a certain level of risk when making a purchase, and the level of risk varies with the type of product and with the person (Hoover, Green, and Saegert 1978). Decision-making, which involves risk, faces the challenge of making a successful choice, and consumers' perceptions of risk influence their evaluations, choices and behaviors (Boksberger, Bieger, and Laesser 2007). Perceived risk is known to affect new product adoption, store selection, advertising effectiveness, information acquisition, use of word-of-mouth information, and brand loyalty (Schaninger 1976). Models in the literature have treated perceived risk as consisting of two components; one is uncertainty about the outcome, and the other is uncertainty about the consequence or importance of loss (Dowling 1985; Peter and Ryan 1976; Peter and Tarpey 1975). The components are joined multiplicatively to denote the overall perceived risk, and

perceived risk rises with higher degree of uncertainty and greater chances of negative consequences (Dowling and Staelin 1994).

Perceived risk is known to produce risk aversion and risk-handling activities. Bauer (1960) presented the "perceived risk" strategy which assumed that consumers act to reduce any anticipated negative utility related with purchase behavior. The Howard-Sheth (1969) theory, the perceived risk theory (Cox 1967) and Bettman's (1973) model of consumer-choice processes also indicate that when the level of perceived risk is below one's tolerance level, one will search for more information or alternatives. Similarly, Dowling and Staelin (1994) observed that perceived risk had influence on search behavior, and subjects engaged in risk-reducing activities to lower their perceived risk level. Erdem (1998) further demonstrated that subjects were more likely to purchase a known brand than a new brand when perceived risk was high.

For that reason, when perceived risk is high, consumers become more risk averse. Although minimal cognitive control is an important characteristic of impulsive buying, consumers are likely to go through cognitive processes when purchase decisions involve high level of risk. The effects of perceived risk on impulsive buying have not been documented yet, but it seems reasonable to predict that subjects with high perceived risk would show risk aversion and not display impulsive buying behavior. In contrary, subjects with low perceived risk are expected to disregard cognitive processes and show increased impulsive buying behavior. Thus, we hypothesize the following:

> **H2:** Perceived risk would be negatively associated with impulsive buying.

Individuals' responses to an environment are likely to be moderated by his or her characteristics. In fact, people differ in their degree of impulsive buying tendencies; some people have high propensity to react to a sudden buying impulse, whereas others do not respond to such stimuli. Buying impulsiveness trait can be defined as the extent to which one is likely to make unplanned, instantaneous, and unreflective purchases (Lin and Chuang 2005). Recent studies in consumer research have demonstrated that buying impulsiveness is a distinctive personal

trait that represents one's tendency to think and to act in a distinctive, identifiable way (Beatty and Ferrell 1998). Highly impulsive buyers are more likely to react to spur-of-the-moment buying stimuli, and they are more open to unexpected buying ideas; they are triggered by physical proximity to a desired product; they are dominated by emotional attraction to the product as well as the immediate gratification (Rook and Fisher 1995). Hence, they experience buying impulses more frequently and strongly than other buyers, and they are more likely to respond positively to their buying impulses. Yet, even highly impulsive buyers do not respond to every buying stimulus, because various intervening factors such as economic position, social visibility, or time pressure may interrupt the shift from impulsive desire to impulsive behavior (Rook and Fisher 1995).

Several studies have investigated the role of buying impulsiveness trait within different contexts and demonstrated that buying impulsiveness trait is strongly linked to impulsive buying behaviors. Rook and Fisher (1995) found that consumers' normative evaluation of appropriateness of engaging in impulsive buying in a particular situation moderated individuals' buying impulsiveness trait. Kwak et al. (2006) confirmed prior findings of the relationship between buying impulsiveness trait and impulsive purchase decisions with the moderating effect of subjective norms within a different cultural context. Lin and Chuang (2005) examined individual differences in buying impulsiveness trait and found that highly impulsive adolescents engaged in more impulsive buying behavior than low impulsive adolescents. The results showed that buying impulsiveness trait was significantly correlated with gender, age, and the amount of pocket money available.

Former studies have mostly tested the direct effect of buying impulsiveness trait on impulsive buying. Instead, in this study, we propose that buying impulsiveness trait would have a moderating role and influence the strength of the relationship between shopping emotions and impulsive buying. Subjects with high buying impulsiveness trait are expected to be not heavily influenced by their emotions when they see the products because they already have instinctive strong tendency to buy impulsively. Therefore, the effect of emotion on impulsive buying is expected to be weakened for subjects with high buying impulsiveness

trait. In contrary, subjects with low buying impulsiveness trait are expected to rely on their emotions when making impulsive purchases, and so the relationship between emotion and impulsive buying is predicted to be strengthened. Based on the reasoning, the following hypotheses are formed:

H3: Buying impulsiveness trait would act as a significant moderator of the relationship between shopping emotions and impulsive buying.

H3-1: Buying impulsiveness trait would act as a significant moderator of the relationship between pleasure and impulsive buying.

H3-2: Buying impulsiveness trait would act as a significant moderator of the relationship between arousal and impulsive buying.

In parallel with Hypothesis 3, individuals' buying impulsiveness trait is expected to moderate the relationship between perceived risk and impulsive buying. Subjects with high buying impulsiveness trait are expected to make impulsive purchases even when purchase decisions involve high level of risk. So, the effect of perceived risk on impulsive buying behavior would be weakened for subjects with high buying impulsiveness trait. On the other hand, subjects with low buying impulsiveness trait are expected to go through more cognitive processes to determine the degree of risk. Hence, the relationship between perceived risk and impulsive buying behavior is expected to be strengthened for subjects with low buying impulsiveness trait. The following hypothesis is formed:

H4: Buying impulsiveness trait would act as a significant moderator of the relationship between perceived risk and impulsive buying.

METHOD

Sample

A total of 167 shoppers participated in the study in 2008, and

163 responses were used for analysis. Men constituted 24% and women constituted 76% of the total respondents. The majority of the participants were characterized as students in the age of 21 to 30. In terms of education, 64.4% of the respondents classified themselves as college students or university graduates. Approximately 39.3% earned less than $500 a month, and 25.2% earned an amount between $1,000 and $2,000. In addition, the married to single ratio was 20.2% and 79.1%, respectively.

Procedure

The research design involved constructing a survey that measured subjects' buying impulsiveness trait and then assessed their shopping emotions, perceived risk as well as their purchase behavior and purchase intention. Shoppers were approached at random at four department stores and shopping malls located in Seoul, Korea. Eligible respondents, who agreed to participate, were asked to complete the survey. Surveys were completed during their shopping experience rather than before or after in order to precisely capture the effects of the constructs on impulsive buying behavior. Hence, the measures were expected to produce stronger results, compared to the measures of recalled questionnaires.

Measures

The questionnaire was composed of five major parts. Part 1 assessed respondents' buying impulsiveness trait. Next, participants were asked to write down any product that was not previously planned but triggered their sudden urge to buy during their shopping experience. Part 2 consisted of questions, asking their emotional states when they encountered the product. They assessed the level of perceived risk of purchasing the product in part 3. Part 4 asked respondents' purchase decision and purchase intention, and the last section included socio-demographic items.

Buying Impulsiveness Trait. Rook and Fisher (1995) generated thirty-five items to measure individuals' propensity to make impulsive purchases. The measures were purified by using exploratory factor analysis, correlational tests and confirmatory

factor analysis, and the final nine-item measure of buying impulsiveness trait indicated an acceptable model. Rook and Fisher's nine-item scale of buying impulsiveness trait was selected for the questionnaire. Participants were asked to indicate the extent to which they agreed with the set of nine items using a 5-point scale ranging from *strongly disagree to strongly agree*.

Shopping Emotions. The Mehrabian and Russell's (1974) PAD semantic differential measure approach was adopted to test predictions from the model. The Mehrabian and Russell emotional dimensions of pleasure and arousal have become principal to marketing contexts, and it proved its ability to capture a wide range of emotional states experienced in consumption experiences (Dawson et al. 1990). Yet, a number of earlier studies found that the third dimension, dominance, was a poor indicator of purchase behaviors. Hence, the third dimension of dominance was not included. The twelve scales drawn from the PAD paradigm were: (Pleasure) happy/unhappy, pleased/annoyed, satisfied/unsatisfied, pleasant/unpleasant, contended/depressed, important/unimportant; (Arousal) frenzied/sluggish, excited/calm, stimulated/relaxed, jittery/dull, wide awake/sleepy, aroused/unaroused. The order and directions of the scales were randomized, and each was measured using a 7-point scale between bipolar adjectives as in the semantic differential scale.

Perceived Risk. Measurement of perceived risk was guided by the typology proposed by Peter and Tarpey (1975). Peter and Tarpey (1975) suggested that perceived risk was the probability of loss multiplied by importance of loss. There were twelve items to measure the perceived risk: six items intended to measure the probability of the six types of loss including financial, performance, psychological, physical, social, and time risks; six items intended to measure the importance of the six types of loss. Subjects were provided with the twelve risk rating items on a 7-point scale ranging from *strongly disagree* to *strongly agree*. The probability of loss was multiplied by importance of loss to create a measure of each six type of risk, and the average of the six measures was computed to be used for later analysis.

Impulsive Buying Behavior & Impulsive Buying Intention. Impulsive buying behavior was measured with the question "Did

you purchase the product which you did not plan?" with the response scale marked *yes* and *no*. Impulsive behavioral intention was measured by asking the question, "I intend to purchase the product"; the response scale endpoints marked *would never purchase the product and would certainly purchase the product* on a 7-point scale.

Reliability & Validity

Reliability and validity were assessed on the two multi-item constructs of shopping emotions and buying impulsiveness trait (Bagozzi and Yi 1988). The process of purification consisted of factor analysis (varimax rotation and elimination of items with multiple loadings above .40) followed by examination of the levels of internal consistency (coefficient alpha criteria). Results of these respective factor analysis results appear in table 1 and table 2.

One of the original items from the buying impulsiveness trait scale (i.e., Sometimes I feel like buying things on the spur-of-the-moment) was eliminated, using the .65 coefficient α criteria (Nunnally 1978). The remaining eight items extracted one factor, and the eight items were capable of explaining 71.70% of the total variance. One item from the pleasure scale (i.e., important-unimportant) and three items from the arousal (i.e., jittery-dull, aroused-unaroused, wide awake-sleepy) were also eliminated, using the .65 coefficient α criteria (Nunnally 1978). An

Table 1. Factor Loadings of Buying Impulsiveness Trait Scale

Scale Items	Factor loading
I often buy things spontaneously.	.857
"Just do it" describes the way I buy things.	.886
I often buy things without thinking.	.837
"I see it, I buy it" describes me.	.835
"Buy now, think about it later" describes me.	.848
I buy things according to the way how I feel at the moment.	.828
I carefully plan most of my purchases.	.821
Sometimes I am a bit reckless about what I buy.	.860

n = 163

One factor with the eigenvalue larger than 1.0 accounted for 71.70 percent of the variance Loadings smaller than 0.5 are not shown.

Table 2. Factor Loadings of Shopping Emotions Scale

Scale Items	Factor Loading	
	Pleasure	Arousal
Pleased — Annoyed	.800	–
Satisfied - Unsatisfied	.884	–
Pleasant - Unpleasant	.814	–
Contended - Depressed	.857	–
Happy — Unhappy	.843	–
Stimulated - Relaxed	–	.868
Excited - Calm	–	.905
Frenzied — Sluggish	–	.731

n = 163
Two factors with eigenvalues larger than 1.0 accounted for 64.63 percent of the variance Loadings smaller than 0.5 are not shown.

exploratory factor analysis of the eight pleasure and arousal items extracted two factors with an eigenvalue greater than 1.0., and they were capable of explaining 64.64% of the variance in the variables. As shown in table 2, the two-factor solution illustrated an apparent division between the pleasure and arousal items as expected from the Mehrabian and Russell model. The first factor (pleased-annoyed, satisfied-unsatisfied, pleasant-unpleasant, contended-depressed, and happy-unhappy) represented *Pleasure*, whereas the second factor (stimulated-relaxed, excited-calm, and frenzied-sluggish) represented *Arousal*.

The Cronbach's alpha for the remaining eight buying impulsiveness trait measures (α = .943) suggested that the eight items were highly reliable to assess buying impulsiveness trait. The reliabilities (α = .930 for pleasure and α = .866 for arousal) of both the pleasure and arousal scales were also above the desired .65 level, indicating satisfactory reliability. For later analysis, buying impulsiveness trait, pleasure and arousal scores were computed for each subject by calculating the average of the items. These scores were assigned as *Buying Impulsiveness Trait, Pleasure* and *Arousal* to each respondent.

RESULTS

Main Effects

Impulsive Buying Behavior. The main aim of the analysis was to determine the extent to which subjects' impulsive buying behavior could be predicted from their pleasure, arousal, and perceived risk. A logistic regression was run to estimate the probability of impulsive buying behavior as a function of the following variables: pleasure, arousal and perceived risk. Mean centering was adopted to minimize the problems associated with multicollinearity and to improve interpretation of the final regression model (Yi 1994). Entering the three independent variables of pleasure, arousal, and perceived risk in the logistic equation generated the likelihood ratio chi-square of 19.104 ($p = .000$). The percentage of correct prediction increased from 57.1% in the null model to 63.8% in the logistic regression model. Accordingly, the logistic regression model with the three independent variables was found to provide a significantly better fit than the null model.

It was hypothesized that the amount of pleasure would significantly influence the likelihood of making an impulsive purchase. The odd ratio (Exp(B)) suggested that the log odd of making an impulsive purchase versus not making an impulsive purchase increased by a factor of 1.265 for a one-unit increase in the Pleasure score ($B = .235$, $Exp(B) = 1.265$). However, the regression coefficient was not statistically significant ($p = .203$), and so pleasure did not have a main effect on impulsive buying behavior.

As shown in table 3, the positive regression coefficient suggested that arousal increased the probability of impulsive buying behavior and indicated that arousal was a significant predictor of impulsive buying ($B= .346$, $p= .044$). The regression coefficient was fairly large to have a substantial influence over the outcome. For every one unit increase in the Arousal score, the odds of impulsive buying behavior increased by a factor of 1.413 ($B = .346$, $Exp(B) = 1.413$). In other words, respondents, who experienced arousal when seeing the unplanned product, were more likely to make impulsive purchases.

Table 3. Logistic Regression Analysis Results

Independent Variables	B	S.E.	p-value	Exp(B)
(Constant)	-.329	.169	.052	.719
Pleasure	.235	.185	.203	1.265
Arousal	.346	.171	.044*	1.413
Perceived Risk	-.045	.020	.021*	.956
Chi-square = 19.104 (p = .000), R^2 = .148				

Note: N = 163; *p < .05; **p < .01; ***p=.000

On the other hand, the logistic regression result generated a negative regression coefficient of perceived risk (β = -.045, Exp(β) = .961). In contrary to shopping emotions, the level of perceived risk decreased the probability of making an impulsive purchase. The odd ratio showed that the log odd of making an impulsive purchase versus not making an impulsive purchase decreased by a factor of .956 for every one unit increase in the Perceived Risk score. The regression coefficient was found to be significant (p < .05), indicating that perceived risk was significantly associated with impulsive buying behavior. The results supported our hypothesis that perceived risk would be negatively associated with impulsive buying.

Impulsive Buying Intention. Multiple regression analysis was run to assess the degree to which the pleasure, arousal and perceived risk were associated with impulsive buying intention. Table 4 presents the multiple regression results of the pleasure, arousal, and perceived risk dimensions against impulsive buying intention. Entering the three independent variables in the multiple regression generated R-square of .160 (F= 10.120, p= .000).

In parallel with the findings above, the multiple regression tests provided additional support for the direct effect of arousal on impulsive buying. After controlling for pleasure and perceived risk, arousal was clearly the major predictor of impulsive buying intention (t= 4.070, p= .000). The Arousal regression coefficient was positive, large, and statistically significant, having the strongest influence over the outcome. This analysis demonstrated that impulsive buying intentions were higher under arousal. Interestingly, pleasure, which was not associated with impulsive buying behavior, was found be an important

Table 4. Multiple Regression Analysis Results

Independent Variables	B	Standardized Coefficients Beta	t	p-value
(Constant)	5.374		45.844	.000***
Pleasure	.435	.269	3.681	.000***
Arousal	.479	.296	4.070	.000***
Perceived Risk	-.068	-.042	-.571	.559
F = 10.120 (p = .000), R= .400, R^2 = .160				

Note: N = 163; *p < .05; **p < .01; ***p = .000

predictor of impulsive buying intention. The predictive power of pleasure over impulsive buying intention was slightly less than that of arousal, yet the moderately large regression coefficient indicated that pleasure had a significant effect (t = 3.681, p = .000). Besides, the B coefficients of pleasure and arousal were positive, confirming earlier findings that shopping emotions are positively related to impulsive buying.

However, the multiple regression results showed that the relationship between perceived risk and impulsive buying intention was not statistically significant (t = -.571, p = .569). Although perceived risk was negatively associated with impulsive buying behavior, the Perceived Risk regression coefficient for impulsive buying intention was not significant. In other words, perceived risk, although significantly correlated with impulsive buying behavior, did not influence impulsive buying intention. This finding suggests that the effect of perceived risk on impulsive buying intention is different from its effect on impulsive buying behavior.

Moderating Effects

Another important aim of the study was to investigate the moderating effect of individuals' buying impulsiveness trait. The data were analyzed using hierarchical moderated regression. The moderated regression results are summarized in table 5. Entering the independent variables, the moderator, and the interaction terms in the multiple regression generated R-square of .299 (F = 9.387, p = .000).

Table 5. Moderated Regression Analysis Results

	Step 1			Step 2			Step 3		
Variables	B	t	p	B	t	p	B	t	p
Pleasure	.451	3.825	.000	.281	2.289	.023	1.084	3.558	.000***
Arousal	.473	4.027	.000	.240	.112	.033	.068	.262	.794
Perceived Risk	-.069	-.585	.559	-.008	-.651	.516	.047	1.451	.149
Buying Impulsiveness				.445	3.788	.000	2.515	4.232	.000***
Pleasure × Buying Impulsiveness							-.354	2.765	.006**
Arousal × Buying Impulsiveness							.088	.775	.439
Perceived Risk × Buying Impulsiveness							-.023	1.705	.090
Constant	5.374	45.92	.000	5.382	47.696	.000	10.26	7.427	.000***
R^2	.164			.233			.299		
Adjusted R^2	.148			.213			.267		
F	10.363			11.923			9.387		

Note: N = 163; *p < .05; **p < .01; ***p =.000

It was hypothesized that buying impulsiveness trait would moderate the relationship between pleasure and impulsive buying. As represented in table 5, the interaction term of pleasure and buying impulsiveness trait in step 3 was statistically significant (t = 2.765, p = .006). Thus, the hypothesis was supported; buying impulsiveness trait was found to affect the pleasure-impulsive buying intention relationship. However, the insignificant coefficient showed that buying impulsiveness trait did not have a moderating role in the relationship between perceived risk and impulsive buying intention (t = .775, p = .439). Because perceived risk was not significantly associated with impulsive buying intention, discussion of the moderating effect on the relationship between perceived risk and impulsive buying intention was not needed. Overall, findings from the moderated regression analysis demonstrated that buying impulsiveness trait had a substantial moderating role in only the pleasure-impulsive buying relationship but not in the other relationships.

CONCLUSION

Findings and Implications

To summarize, our results indicated that arousal and perceived risk correlated strongly with impulsive buying behavior, whereas consumers' experienced pleasure and arousal significantly predicted their impulsive buying intention. Evidence was provided which clearly indicated that arousal was the only significant predictor of both impulsive buying behavior and impulsive buying intention. The results suggest that arousal, which is the degree to which one feels stimulated, excited and frenzied, is most strongly related to impulsive buying. Besides, shopping emotions of both pleasure and arousal were significantly associated with impulsive buying intention. Thus, relatively strong relationship between shopping emotions and impulsive buying was supported, and our study confirms earlier findings that impulsive buying is accompanied by intense feeling states.

On the other hand, perceived risk yielded mixed results related to impulsive buying. The logistic regression results provided encouraging support for the significantly negative relationship between perceived risk and impulsive buying. However, the multiple regression tests generated a different outcome and showed that perceived risk was not correlated with impulsive buying intention. On the whole, the study suggests that shopping emotions are important predictors of impulsive buying intention, yet perceived risk is a significant variable that directly affects impulsive buying behaviors. Besides, results from the moderated regression analysis showed that buying impulsiveness trait had a significant moderating effect on the relationship between pleasure and impulsive buying intention. While the level of pleasure, experienced when seeing the product, was a significant predictor of impulsive buying intention, the effect was moderated by consumers' characteristic of buying impulsiveness trait. Finally, arousal becomes insignificant when buying impulsiveness trait*pleasure enters the model in the moderated regression analysis. This finding is especially worthy of note, since arousal has constantly been a strong antecedent of

impulsive buying intention in previous analyses.

This study differs from earlier studies in that both stated behavioral intentions and actual behaviors were examined. In contrary to earlier research, which heavily relied on behavioral intention measures, both impulsive buying intention and impulsive buying behavior were used in actual retail setting. The significant influence of perceived risk on impulsive buying behavior but its failure to predict impulsive buying intention indicates that factors influencing impulsive buying intention are not identical to factors that affect impulsive buying behavior. Hence, purchase intention is not always a precise estimate of purchase behavior. Managers are encouraged to take both impulsive buying intention and impulsive buying behavior into account but pay more attention to the variables that are directly associated with impulsive buying behavior.

The insignificant relationship between perceived risk and impulsive buying intention could be partly attributable to the nature of purchase intention, which is simply the willingness or desire to make a purchase. It may be that consumers rely on their emotions and feelings but do not consider the degree of perceived risk when assessing their willingness to make impulsive purchases. However, they significantly do take perceived risk into consideration in their actual behaviors as essentially one of the most powerful predictors of actual purchases. When perceived risks are high, consumers may favorably evaluate their purchase intention but employ risk-handling activities to avoid impulsive buying. So, perceived risk might act as a major impediment that prevents consumers from actually making an impulsive purchase. Otherwise, it may be argued that perceived risk acts as a mediator that connects impulsive buying intention with actual buying behavior, while pleasure and arousal are the antecedents affecting impulsive buying intention. Further analysis is needed to explore the linkage between impulsive buying intention and impulsive buying behavior.

Of particular interest is the finding that the strength of the relationship between shopping emotions and impulsive buying varies with one's buying impulsiveness trait. Given pleasurable shopping emotions, individuals' buying impulsiveness trait becomes an important moderator of impulsive buying intentions.

Consumers who do not have a buying impulsiveness trait are significantly influenced by pleasure, whereas highly impulsive buyers are more likely to make unplanned, instantaneous, and unreflective purchases regardless of their level of pleasure during their shopping experiences. In addition, there was no moderating effect of buying impulsiveness trait on the arousal-impulsive buying relationship. Having influences on both impulsive buying behavior and impulsive buying intention, arousal was substantially associated with impulsive buying. It may be argued that arousal is overly related to impulsive buying, and so all consumers, apart from their buying impulsiveness trait, experience a sudden urge to buy when they get stimulated or aroused.

This study holds important implications for consumer research and can be assessed from both a theoretical and a practical perspective. Most importantly, this study provides a model that captures the multiple dimensions and inter-relationship between the factors important to impulsive buying. Several studies have attempted to explore different aspects of impulsive buying, but there has been no study that applied an overall framework. Besides, no study has investigated the cognitive factors related to impulsive buying, and the relationship between perceived risk and impulsive buying has never been a subject of earlier studies. Although there might be some other important factors or determinants on impulsive buying, the present study offers a framework that incorporates the affective, cognitive determinants and individual factors that are closely related to impulsive buying. Therefore, new insights about impulsive buying, particularly in reference to the effects of shopping emotions, perceived risk and buying impulsiveness trait are provided.

The practical implication of the shopping emotions-impulsive buying relationship is that consumers' emotional states may strongly affect individual spending beyond consumers' original expectations. Raising consumers' pleasure and arousal level can stimulate their sudden impulse to buy. Since emotional responses induced by the store environment can powerfully contribute to overspending, managers should encourage consumers' impulsive buying through multifaceted strategies. Creating pleasant store environments and manipulating store

layout, lighting, color arrangement and music would have crucial effects to induce consumers to make more impulsive buying decisions, thereby increasing the probability of sales.

As another significant predictor of impulsive buying behavior, perceived risk calls for additional marketing strategies. Managers should incorporate different methods to reduce the amount of risk that consumers identify to be precarious. Providing information designed to reduce the anxiety of making an important purchase, using samples and trials that offer satisfactory experiences or giving hesitant customers an encouraging word are expected to further promote impulsive buying. Managers would also benefit from a better understanding of individuals' buying impulsiveness trait. Targeting consumers with low buying impulsiveness appears to be more advantageous, since highly impulsive buyers already have high propensity to react to spontaneous buying stimuli. On the other hand, consumers, especially impulsive buyers, can use this information to make more rational decisions. When they are triggered by their immediate urge to buy, they may benefit from evaluating whether it comes from their enjoyable shopping emotions or the product attributes.

Limitation and Further Research

The current study has the typical limitations related to self-report survey research. Impulsive buying, which is often evaluated as immature, irrational and self-centered, may have negative connotations. People are generally predisposed to seek for social acceptance, and particularly social desirability bias is the inclination to present oneself in a manner that will be viewed favorably by others. So subjects could have provided socially desirable answers but inaccurate measures of their buying impulsiveness trait. Furthermore, this study faces the inherent problems associated with emotion. Emotion is an unstable concept that is difficult to define and measure. What's more, emotional responses are not easily recallable, and they are not easy to document or verbalize (Donovan et al. 1982). Some respondents indeed experienced difficulty in relating to some of the items in the shopping emotion scale, and such confusion might have led to failure to observe more significant results.

While this may be problematic, the measurements of emotions, perceived risk and impulsive buying took place immediately after the shopping behaviors to measure the variables as accurately as possible.

The findings guide to new directions for further research. For example, designing an experimental study which creates artificial buying situations or computer simulations with different pleasure, arousal and perceived risk levels is a possibility. Manipulating the settings into pleasurable versus unpleasant and presenting highly precarious versus safe products in terms of perceived risk can lead to different attitude and buying decisions. Observing subjects' impulsive purchase decisions in varying situations may uncover more comprehensible knowledge on impulsive buying.

The study of other consumer or situational characteristics that may directly or indirectly influence impulsive buying is an important next step. Consumers are social actors that are linked to others through a variety of role relationships, and their shopping emotions or perceived risk may be different when social visibility increases. Shopping emotions may mediate the relationship between social visibility and impulsive buying, or social visibility may have a moderating effect on the shopping emotions-impulsive buying relationship. Looking into how these constructs work to influence one's impulsive buying would be interesting. In addition, most studies on impulsive buying have focused on offline shopping behaviors, and not much is known about consumers' impulsive behavior in online circumstances. Consumers are likely to experience different levels of perceived risk and emotions depending on the shopping channels. So, comparing online and offline shopping environments using this model may add meaningful empirical findings. The importance of impulsive buying has recently been identified as an appropriate field for future study, and looking more deeply into other possible variables would definitely enrich the literature in this area.

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